UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,707	02/07/2001	Peter R. Badovinatz	POU996048US3	5326

			EXAMINER
23405	7590	11/05/2003	LAO, SUE X

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ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/778,707	BADOVINATZ ET AL.
	Examiner	Art Unit	
	S. Lao	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-6_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-6_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

2.   Claims 1-6 are presented for examination. This action is in response to the preliminary amendment filed 2/7/2001. Applicant has amended claims 1-5 and added claim 6.

3.   Applicant provided a list of co-pending applications on pages 1-2. These are not checked. Applicant is invited to inform the examiner if any of the co-pending applications are particularly relevant to / conflicting with the current application. Applicant is required to maintain a clear line of demarcation between applications. See MPEP § 822.

4.   The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum,* 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi,* 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman,* 29 USPQ2d 2010 (Fed. Cir. 1993).

        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and © may be used to overcome an actual or provisional rejection based on a non-statutory double

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5.   Claims 1-4, 6 are rejected under the judicially created doctrine of obviousness - type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,216,150. Although the conflicting claims are not identical, they are not patentably distinct from each other. In particular,

as to claim 1, U.S. Patent No. 6,216,150 teaches a computer program product comprising a computer useable medium having computer readable program code means therein for providing a single application programming interface (claim 1, lines 3-4), said computer readable program code means in said computer program product comprising:

computer readable program code means for causing a computer to communicate between a member of a process group of related processes and another member of said process group (claim 1, lines 6-9);

computer readable program code means for causing a computer to accomplish voting on a proposed protocol among the members of said process group for synchronizing said related processes of said process group, said proposed protocol comprising a proposed action to be taken by at least one of the members of the process group (claim 1, lines 10-16); and

computer readable program code means for causing a computer to implement, or refrain from implementing, said proposed action in response to an outcome of said voting (claim 1, lines 17-20).

As to claims 2 and 3, U.S. Patent No. 6,216,150 teaches computer readable program code means in said computer program product of claim 1, further comprising computer readable program code means for causing a computer to manage membership of at least one of said process group and a processor group of processors (claim 2, lines

21-23), and computer readable program code means for causing a computer to control a group state value for said process group in the form of a synchronized blackboard with any changes thereto made available to the members of the process group as changes are made (claim 2, lines 24-28).

As to claim 4, note discussions of claims 1-3.

As to claim 6, note discussions of claim 1 and U.S. Patent No. 6,216,150 further teaches said proposed action including one of a member joining said process group or leaving said process group (claim 3, lines 14-17).

6.   Claim 5 is rejected under the judicially created doctrine of obviousness - type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,216,150 in view of claims 1-14 of U.S. Patent No. 6,026,426. Although the conflicting claims are not identical, they are not patentably distinct from each other. In particular, as to clam 5, U.S. Patent No. 6,026,426 teaches means for causing a computer to monitor, by a member of said process group having no voting rights, one or more aspects of said process group (claim 7, lines 1-4). Therefore, it would have been obvious to combine the teachings of U.S. Patent No. 6,216,150 and U.S. Patent No. 6,026,426 so as to provide logging/debugging capability through monitoring.

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al ("CCL: A Portable and Tunable Collective Communication Library for Scalable parallel

Computers") in view of Muth et al ("Atomic Commitment for Integrated Database Systems").

As to claim 1, Bala teaches a computer program product comprising a computer useable medium having computer readable program code means therein for providing a single application programming interface (Collective Communication Library CCL), the computer readable program code means in the computer program product comprising:

computer readable program code means for causing a computer to communicate (broadcast communication) between a member (a particular member) of a process group of related processes (process group G) and another member of the process group (other members of G) [page 837, right col., section 2.2].

Bala further teaches a proposed protocol (group-wide transaction) among the members of the process group for synchronizing (barrier synchronization / barrier mode) the related processes of the process group, the proposed protocol comprising a proposed action to be taken (transaction) by at least one of the members of the process group [page 837, right col., section 2.2; pages 839-840, section 3.3].

While Bala teaches transaction processing (group-wide transaction), Bala does not explicitly teach that the transaction processing includes steps of voting, nor implementing, or refraining from implementing, the proposed action in response to an outcome of the voting.

Muth teaches transaction processing among a group of related processes (central/global transaction and local transactions), including voting (message communication between global and local transactions, fig. 2) on a proposed protocol/action (commitment), and implementing (commit), or refraining from implementing (abort), the proposed action in response to an outcome of the voting (local transaction commits/aborts the transaction when the global decision is reached and "commit"/"abort" messages sent out). See page 297, right col., section 3.1, 1st and 2nd para.s.

Given the teaching of Muth, it would have been obvious to include the steps of voting and implementing/refraining into the transaction processing of Bala. One of ordinary skill in the art would have been motivated to combine the teachings of Bala and Muth

because this would have provided transaction processing with ACID properties (Muth, section 3; page 303, section 6) desirable to the integrated heterogeneous systems of Bala (Bala, page 835, left col., section 1).

9.   Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al in view of Muth et al as applied to claim 1 and further in view of Moser et al ("The Totem System").

As to claim 2, Bala teaches managing membership of at least one of the process group (group routine or partition routine) [page 836, section 2.1], but fails to teach managing a processor group of processors.

Moser teaches managing a processor group of processors in connection with process group (processor membership) [page 63, section 3.2]. Therefore, it would have been obvious to include the aspect of managing processor group of Moser into Bala as modified so as to provide fault-tolerance (Moser, page 61, section 1).

As to claim 6, note discussions of claim 1, and Bala further teaches managing membership of process groups (group routine or partition routine) [page 836, section 2.1], but fails to teach that such management includes one of a member joining the process group or leaving the process group.

Moser teaches group management, including operations for one of a member joining the process group (join a process group) or leaving the process group (leave a process group) [page 65, section 5]. Therefore, it would have been obvious to include, into the group management of Bala as modified, join and leave group operations. Note discussion of claim 2 for a motivation to combine.

10.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al in view of Muth et al as applied to claim 1 and further in view of Gray (U S Pat. 5,802,396).

As to claim 3, Bala as modified by Muth teaches controlling a group state value for the process group (system committed or aborted state), but fails to teach communicating

such state in the form of a synchronized blackboard with any changes thereto made available to the members of the process group as changes are made.

Gray teaches communicating state information among a group of related processes (process agents 57, 57A, 57B) in the form of a synchronized blackboard (blackboard 55) with any changes thereto made available to the members of the process group as changes are made (agent posts event to the blackboard which notifies interested agents) [col. 10, line 48 - col. 11, line 6]. Therefore, it would have been obvious to communicate the state and change in the form of a synchronized blackboard in Bala because this would provide different actions pointed to by an instructing process upon receiving various communication/messages (Gray, col. 2, lines 4-18).

11.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al in view of Muth et al as applied to claim 1 and further in view of Moser et al and Gray.

As to claim 4, it is cover by claims 1-3, thus note claims 1-3 for discussion.

12.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al in view of Muth et al , Moser et al and Gray as applied to claim 4 and further in view of Foss (U S Pat. 5,335, 347).

As to clam 5, Foss teaches means for causing a computer to monitor, by a member of the process group having no voting rights (observer 54 of a message), one or more aspects of the process group (observe, vs. handle, a received message) [col. 8, lines 41-60]. Therefore, it would have been obvious to include into Bala as modified monitoring by a member of the process group having no voting rights, one or more aspects of the process group because this would reduce resource waste by message scope (Foss, col. 1, lines 42-56).

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (703) 305-9657. A voice mail service is also available at this number. The examiner's supervisor, SPE John Follansbee, can be reached on (703) 305 8498. The examiner can normally be reached on Monday - Friday, from 9AM to 5PM. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7238 for After Final communications, (703) 746-7239 for Official communications and (703) 746-7240 for Non-Official/Draft communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

Sue Lao   ~~Sue Lao~~
October 31, 2003